

ABSTRACT OF THE DISCLOSURE

In the manufacture of semiconductor devices, a system and method for delivering gas at a predetermined rate of flow is disclosed, which includes: a flow controller having a diaphragm forming upstream and downstream chambers; a regulator for delivering gas to the upstream chamber of the flow controller at a substantially constant pressure, the controller having an outlet from the downstream chamber which is opened and closed by the diaphragm; an urging means for urging the diaphragm toward its closed position; and a valve for selectively adjusting the spring force to achieve the predetermined rate of flow without having to use a gas flow measurement device to monitor the flow rate.